

METHOD AND SYSTEM FOR TREATING A HARD MASK TO IMPROVE ETCH CHARACTERISTICS

ABSTRACT OF DISCLOSURE

During pattern transfer to a film stack, the hard mask layer, such as a tunable etch resistant antireflective coating (TERA), is consumed when etching the underling layer(s), leading to reduced etch performance and potential damage to the underlying layer(s), such as lack of profile control. A method of and system for preparing a structure on a substrate is described comprising: preparing a film stack comprising a thin film, a hard mask formed on the thin film, and a layer of light-sensitive material formed on the hardmask; forming a pattern in the layer of light-sensitive material; transferring the pattern to the hard mask; removing the layer of light-sensitive material; treating the surface layer of the hard mask in order to modify the surface; and transferring the pattern to the thin film.